



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/726,722 | 12/03/2003 | Kyu-seok Kim | SWO-0006 | 6367 |
| 23413 | 7590 | 02/07/2006 | EXAMINER | |
| CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 | | | CRANSON JR, JAMES W | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2875 | |

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|----------------------------|--|
| Office Action Summary | Application No. 10/726,722 | Applicant(s) KIM ET AL. | |
| | Examiner James W. Cranson | Art Unit 2875 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 28 is/are rejected.
- 7) ☒ Claim(s) 21-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,435,685 to Matsushita.

Matsushita (fig4) discloses a backlight assembly comprising lamp, light guide plate, lamp reflector having an opening toward the light-entering surface combined to plate, and light interceptive part interposed between emitting and reflector preventing light from the lamp from entering through edge which light entering and emitting are intersected.

Regarding claim 1;

A backlight assembly (10) for an LCD apparatus comprising;

a lamp emitting light (7);

a light guide plate (2) with light-entering surface (2A) and

light emitting surface (2C);

a lamp reflector (28) having an opening toward light entering surface (figure 4) and combined to light guide plate (fig 4)

Art Unit: 2875

accommodating and covering the lamp (fig4) and
a light interceptive part (281,282, fig 4) between emitting surface
and lamp reflector (fig 4) preventing light from entering through an
edge at which entering surface and emitting surface intersect (fig4).

Regarding claim 2, according to claim 1,

Matsushita discloses and illustrates in figure 4 that light interceptive
part (281,282) is depressed by edge (EU,EL, figure 4) at which light
entering surface and light emitting surface intersect.

Regarding claim 4, according to claim 2,

Matsushita discloses and illustrates in figure 4 that light interceptive
part (281,282) is extended toward lamp beyond light entering surface.

Regarding claim 10, according to claim 1,

Matsushita discloses and illustrates in figure 4 that a light reflector (4)
is disposed on rear side of light guide plate.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

Art Unit: 2875

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,874,902 to Yamashita et al.

Regarding claim 15:

Yamashita discloses a backlight assembly for an LCD apparatus, comprising: a lamp emitting light (1); a light guide plate (3) including a light-entering surface (31) through which light from lamp enters, and a light-emitting surface (33) through which light is emitted; a lamp reflector (2) having an opening toward the light-entering surface and combined to the light guide plate, accommodating and covering lamp (figure 1); and a reverse prism sheet (4) placed in front of light-emitting surface and formed with a plurality of a reverse prism teeth at intervals of a predetermined pitch on a surface facing light-emitting surface (figure 1), wherein at least one side of every reverse prism tooth is convex (abstract line 17).

Regarding claim 16, according to claim 15:

Yamashita discloses and illustrates in figure 1 that on a rear surface of the light guide plate is formed a plurality of prism teeth at intervals of a predetermined pitch.

Regarding claim 17, according to claim 16:

Yamashita discloses and illustrates in figure 1 that the reverse prism teeth are arranged in a direction across the prism teeth of the light guide plate

Regarding claim 18, according to claim 15:

Yamashita discloses and illustrates in figure 3 a light interceptive part (6).

Regarding claim 19, according to claim 18:

Art Unit: 2875

Yamashita discloses and illustrates in figure 3 a light interceptive part (6) is depressed by the edge at which emitting and incident surfaces intersect.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3,6,7 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,435,685 to Matsushita.

Regarding claim 3, according to claim 1, wherein light interceptive part is made of elastic PET.

Matsushita discloses the claimed invention except for the material comprising the light interceptive part. It would have been obvious to one of ordinary skill in the art at the time of invention to have the light interceptive part of Matsushita made of elastic PET because it has been held that lacking any criticality, the selection of a known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (*In re Leshin*, 125 USPQ 416).

Art Unit: 2875

Regarding claim 6, according to claim 3,

Matsushita discloses and illustrates in figure 4 that light interceptive part (281,282) is extended toward lamp beyond light entering surface.

Regarding claim 7, according to claim 6,

Matsushita discloses and illustrates in figure 7 that light interceptive part has a C shaped cross section.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,435,685 to Matsushita in view of USPN 6,443,583 to Ha or USPN 6,074,070 to Sasako.

Matsushita does not disclose that light interceptive part is printed on a surface of the lamp reflector facing the light-emitting surface or that the part color is black or gray.

Ha teaches in a backlight for a LCD having printed regions on the reflector (column 2 lines 29-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the light interceptive part printed on the surface of the reflector of Matsushita as taught by Ha. The reason is ease of manufacture by eliminating the need for a separate interceptive part.

Claims 11 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,435,685 to Matsushita in view of USPN 6,874,902 to Yamashita et al.

Regarding claims 11, according to claim 10, and claim 12, according to claim 11:

Matsushita does not disclose that a light guide plate facing the reflector is formed of a plurality of prism teeth at intervals of a predetermined pitch or that it further comprises a reverse prism sheet placed in front of the light-emitting surface and formed with a plurality of a reverse prism teeth at intervals of a predetermined pitch on a surface facing

the light-emitting surface.

Yamashita teaches and illustrates in figure 1 that a light guide plate facing the reflector is formed of a plurality of prism teeth at intervals of a predetermined pitch or that it further comprises a reverse prism sheet placed in front of the light-emitting surface and formed with a plurality of a reverse prism teeth at intervals of a predetermined pitch on a surface facing the light-emitting surface. It would have been obvious to one of ordinary skill in the art at the time of the invention to have that the light guide plate facing the reflector is formed of a plurality of prism teeth at intervals of a predetermined pitch or that it further comprises a reverse prism sheet placed in front of the light-emitting surface and formed with a plurality of a reverse prism teeth at intervals of a predetermined pitch on a surface facing the light-emitting surface in Matsushita as taught by Yamashita. The purpose, as taught by Yamashita, is to concentrate the emitted light from the light guide so that the luminance can be enhanced.

Regarding claims 13 and 14, both according to claim 12, wherein at least one side of every reverse prism tooth is convex (abstract, line 17) and reverse prism teeth are arranged in a direction across the prism teeth of the light guide plate (figure 1).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,874,902 to Yamashita.

Regarding claim 20, according to claim 19, wherein light interceptive part is made of elastic PET.

Yamashita. discloses the claimed invention except for the material comprising the light interceptive part. It would have been obvious to one of ordinary skill

in the art at the time of invention to have the light interceptive part of Yamashita.
made of elastic PET because it has been held that lacking any criticality, the selection of a known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (*In re Leshin*, 125 USPQ 416).

Regarding claim 28;

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,502,947 to Matsumoto in view of USPN 6,435,685 to Matsushita.

Matsumoto in a LCD apparatus does not have a light interceptive part interposed between the light emitting surface and the lamp reflector. Matsushita has a light interceptive part interposed between the light emitting surface and the lamp reflector. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide Matsumoto with a light interceptive part interposed between the light emitting surface and the lamp reflector as taught by Matsushita. The reason, as taught by Matsushita (column 3, lines 49-54, "blocking of light incidence to the edges prevents generation of luminance irregularities")

Allowable Subject Matter

Claims 21-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 21, according to claim 20, adds that light interceptive part is "C" shaped..

Claim 22, according to claim 18, adds that light interceptive part is printed on a surface of lamp reflector facing light emitting surface.

Claim 23, according to claim 22, adds that light interceptive part is black or gray.

Claim 24, according to claim 18, adds that light interceptive part is extended toward lamp beyond light-emitting surface.

Claim 25, according to claim 24, adds that a reflector which is disposed in the rear of light guide plate, reflects back light into light guide plate, and extends toward lamp beyond light-entering surface.

Claim 26, according to claim 22, adds that light interceptive part is extended toward lamp beyond light-emitting surface.

Claim 27, according to claim 26, adds that a reflector which is disposed in the rear of light guide plate, reflects back light into light guide plate, and extends toward lamp beyond light-entering surface.

The combination of claimed limitations in the above objected to claims are not found or taught in the art of record.

Response to Arguments

Applicant's arguments filed 01/05/2006 have been fully considered but they are not wholly persuasive. The claims still remain broad in scope.

Regarding amended claims 1 and 28:

Contrary to the response, the fact that Matsushita does not disclose a **light interceptive part being separate** from the lamp reflector and interposed between the light-emitting surfaces and

Art Unit: 2875

the lamp reflector does not make the claimed invention patentable over the prior art. Matsushita discloses the claimed invention except for a **light interceptive part being separate** from the lamp reflector. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a **light interceptive part being separate** from the lamp reflector, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art (Nerwin v Erlichman, 168 USPQ 177, 179).

Regarding amended claims 5, according to claim 4, and claim 7, according to claim 6, wherein light interceptive part has a “C” shaped cross section.

Matsushita discloses and illustrates in figure 7 a “C” shaped cross section.

Conclusion

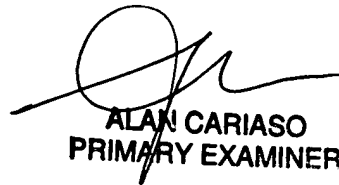
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368.

The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).





ALAN CARIASO
PRIMARY EXAMINER